



REMARKS

I. Status of the Application

Claims 1-16 are pending in the application. Claims 15 and 16 stand withdrawn from consideration as non-elected species in response to a restriction requirement. Claims 1-14 are currently under consideration. Claim 4 stands rejected under 35 U.S.C. § 112, second paragraph. Claims 1 and 3-8 stand rejected under 35 U.S.C. § 102(b) over by Breininger et al. (U.S. Pat. No. 4,170,461). Claims 2 and 9 stand rejected under 35 U.S.C. § 103(a) over Breininger et al. Claims 10-14 stand rejected under 35 U.S.C. § 103(a) over Breininger et al. and further in view of Kawazu et al. (U.S. Pat. No. 5,876,854).

Applicant has amended the claims under consideration to more clearly define and distinctly characterize Applicant's novel invention. Support for the amendment to claims 1 and 4 is found throughout the specification and, in particular, at page 3, lines 8-16. The amendments add no new matter.

Attached as Appendix A to this paper is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "**Version With Markings To Show Changes Made.**"

Applicant respectfully requests entry and consideration of the foregoing amendments, which are intended to place this case in condition for allowance. In view of the foregoing amendments and the following remarks, Applicant requests reconsideration of the rejection of the claims and reexamination of the application.

II. Amended Claim 4 Meets the Definiteness

Requirement of 35 U.S.C. § 112, Second Paragraph

Claim 4 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for use of the terms “st” and “ts.” In response, Applicant has amended claim 4 to respectively replace the terms “st” and “ts” with “substantially transparent” and “thermostable solar coating.” Basis for these replacements is provided in claim 1. Accordingly, Applicant respectfully requests withdrawal of the rejection of claim 4.

III. Amended Claims 1 and 3-8 Are Novel Over Breininger et al.

Claims 1 and 3-8 stand rejected under 35 U.S.C. § 102(b) over Breininger et al. The Examiner asserts that Breininger discloses a cuprous oxide film deposited onto a transparent non-metallic substrate, preferably soda-lime silica glass, and that cuprous oxide coated articles are heat treated to effect an alteration in the color of the transmitted light. In view of the amended claims, Applicant respectfully traverses the Examiner's rejection.

Breininger et al. is specifically directed toward a wet chemical method for the direct deposition of cuprous oxide onto a transparent nonmetallic substrate. In contrast, the claimed invention specifies a thermostable glazing that is applied to the surface of a substrate by sputter deposition. Nowhere does Breininger teach or suggest use of sputter deposition to apply a cuprous oxide coating. In the absence of any teaching in Breininger to apply cuprous oxide by sputter deposition, Breininger fails to disclose all of the limitations of the claimed invention. Thus, Breininger fails to anticipate the claimed invention.

In view of the above, Applicant respectfully requests that the Examiner withdraw the rejection of claims 1 and 3-8.

IV. Claims 2, 9 and 10-14 Are Unobvious Over the Cited Art

Claims 2 and 9 stand rejected under 35 U.S.C. § 103(a) over Breininger et al. The Examiner acknowledges that Breininger et al. does not disclose the layer thickness or the curvo-planar substrate of the invention defined by the present claims. The Examiner asserts that it would have been obvious to one of skill in the art to modify the layer thickness of Breininger and an obvious matter of design choice to use a curvo planar substrate in Breininger et al. Claims 10-14 stand rejected under 35 U.S.C. § 103(a) over Breininger et al. and further in view of Kawazu et al. The Examiner acknowledges that Breininger et al. does not disclose the presence of a coloration layer of the present invention, and relies on Kawazu for disclosing an intermediate layer of zinc oxide. The Examiner further asserts that claim 14 would have been obvious to one of skill in the art as a matter of routinely discovering optimum workable ranges. Applicant respectfully traverses the Examiner's rejections.

Regarding claims 2 and 9, the Examiner acknowledges that Breininger et al. does not disclose the layer thickness and the curvo-planar substrate of the invention. Breininger et al. also fails to teach or suggest applying a thermostable glazing to a substrate by sputter deposition, as called out in the present claims. Breininger et al is specifically directed toward a wet chemical method for the direct deposition of cuprous oxide, and does not teach or suggest sputter deposition. If anything, Breininger et al. teaches away from sputter deposition by its specific teaching of a wet chemical method of deposition. Breininger et al. therefore fails to teach or suggest all of the limitations of the claimed invention and does not render claims 2 and 9 obvious.

Further, the Examiner has provided no supporting explanation, no authoritative citation and, in fact, no citation at all supporting the bald assertion that it would have been obvious to one of skill in the art to modify the layer thickness or use a curvo-planar substrate in the Breininger et al device as a matter of design choice. The Examiner seemingly has relied on his own knowledge or experience in making this assertion, and Applicant therefore requests that the Examiner provide a description of the source of such knowledge and the nature of such experience. Regarding the layer thickness, the Examiner has asserted that the general conditions of the claim are "disclosed in the prior art," yet has failed to provide any citation in support of that assertion. Applicant submits that the rejection should be withdrawn or the prior art be identified for consideration.

In view of the above, Applicant requests withdrawal of the subject rejection of claims 2 and 9.

With respect to claims 10-14, the Examiner acknowledges that Breininger et al. does not teach a thermostable glazing as defined in the present claims, having a coloration layer. In addition, Breininger et al. does not teach or suggest applying a thermostable glazing to a substrate by sputter deposition. Rather, Breininger employs a wet chemical method of deposition and therefore, arguably, teaches away from sputter deposition.

Kawazu et al. fails to cure the deficiency of Breininger et al. The Examiner relies on Kawazu et al. for teaching a UV absorbing, colored film-covered glass article with an intermediate layer having any of a number of coloring metal oxides, including zinc oxide. As noted above, however, in addition to not teaching a coloration layer in a thermostable glazing as defined by the present claims, Breininger also fails to teach or suggest applying a copper oxide

layer by sputter deposition. Thus, Kawazu et al. fails to cure the deficiencies of Breininger et al., since it does not teach or suggest a thermostable glazing comprising a thermostable solar coating consisting essentially of copper oxide and further comprising a coloration layer. Rather, Kawazu et al. teaches only generally that a metallic film may be deposited on a glass substrate by use of sputtering techniques (see col. 1, lines 21-24). Kawazu et al. also teaches that coating methods used therein are not critical (see col. 9, line 23). Kawazu et al. therefore fails to remedy the deficiencies of Breininger et al. with respect to the claimed invention

Applicant further notes that because Breininger et al. teaches away from sputter deposition and Kawazu teaches that the methods used therein are not critical, there is no motivation within these references themselves supporting their combination in the manner selected by the Examiner. Furthermore, Kawazu et al. does not teach or suggest that the methods or layers taught therein would withstand heating, let alone glass tempering and/or bending temperatures. Thus, one skilled in the art would not be motivated by Kawazu et al. to look to Breininger et al., which specifically teaches use of heating coated sheets of glass. In the absence of suggestion of the desirability to combine citations, the mere fact that selected aspects of the citations can be combined does not render the resultant combination obvious.

Further regarding claim 14, the Examiner has provided no citation or explanation supporting his assertion, that it would have been obvious to one skilled in the art to modify layer thicknesses to arrive at those called out in the claim. The Examiner asserts that the general conditions of the claim are disclosed in the prior art, yet has not provided citation to any such prior art.

In view of the above, Applicant requests withdrawal of the subject rejections of claims 2, 9, and 10-14.

V. Conclusion

Having addressed all outstanding issues, Applicant respectfully requests entry of the foregoing amendments and reconsideration and allowance of the claims. To the extent the Examiner believes that it would facilitate the allowance of the case, the Examiner is requested to telephone the undersigned at the number below.

Respectfully submitted,

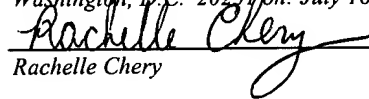


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7/16/01



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(03897.08139)

Applicant: Hülya Demiryont Examiner: Miranda, L.
Application No.: 09/327,594 Group Art Unit: 1775
Filed: June 08, 1999 Paper No.: 8
Title: Thermostable Glazing

Assistant Commissioner for Patents
Washington, DC 20231

APPENDIX A

Version With Markings To Show Changes Made

In the Claims:

1. (Amended) Thermostable glazing comprising a substantially transparent substrate with a substantially transparent, thermostable solar coating on a surface of the substrate, the substantially transparent, thermostable solar coating consisting essentially of sputter deposited copper oxide.
4. (Amended) The thermostable glazing according to claim 1 wherein the substantially transparent, thermostable solar coating [st-ts] lies directly on the surface of the substrate.